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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,467	11/20/2001	Alma K. Schurig	5957-03700	8649

35690 7590 09/07/2010
MEYERTONS, HOOD, KIVLIN, KOWERT & GOETZEL, P.C.
P.O. BOX 398
AUSTIN, TX 78767-0398

EXAMINER	
MATTIS, JASON E	

ART UNIT	PAPER NUMBER
2461	

NOTIFICATION DATE	DELIVERY MODE
09/07/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patent_docketing@intprop.com
ptomhkkg@gmail.com

Office Action Summary	Application No.	Applicant(s)	
	09/988,467	SCHURIG ET AL.	
	Examiner	Art Unit	
	JASON E. MATTIS	2461	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 July 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,10,12,14,17-32,40-44,47-50,52,54 and 55* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-8,10,12,14 and 40-44* is/are allowed.

6)☒ Claim(s) *17-23,26-32,47-50,52,54 and 55* is/are rejected.

7)☒ Claim(s) *24 and 25* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the Amendment filed 7/2/10. Due to the claim amendments, the previous claim objections have been withdrawn. Claims 9, 11, 13, 15, 16, 33-39, 45, 46, 51, and 53 have been canceled. Claims 1-8, 10, 12, 14, 17-32, 40-44, 47-50, 52, 54, and 55 are currently pending in the application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 17, 47, 50, 52, 54, and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosaka et al. (U.S. Patent US 6,448,500 B1) in view of Leyba et al. (U.S. Patent US 6,276,502 B1), Iseli et al. (U.S. Publication US 2005/0083784 A1), and Knapp (U.S. Patent 5,372,840).

With respect to claim 17, Hosaka et al. discloses a cable comprising a first section including at least four unshielded twisted-wire pairs configured to carry data between first and second network devices coupleable to opposing first and second ends of the cable **(See column 1 lines 6-10, column 1 lines 31-48, and Figure 4 of Hosaka et al. for reference to a cable having six pairs of balanced unshielded twisted pair**

wires 41 for signal transmission between electronic equipment coupled to ether end of the cable). Hosaka et al. also discloses a second section including at least a pair of insulated wires configured to carry power from the first network device to the second network device **(See column 1 lines 31-48 and Figure 4 of Hosaka et al. for reference to a pair of power supply wires 32 surrounded by an insulating external coating 34 to carry power between the electronic equipment)**. Hosaka et al. discloses a weather-resistant outer sheath surrounding at least the first and second section **(See column 1 lines 31-48 and Figure 4 of Hosaka et al. for reference to the insulating external coating 34 being a weather-resistant outer sheath surrounding the balanced unshielded twisted pair wires 31 and the power supply pair wires 32)**. Hosaka et al. does not specifically disclose first and second connectors respectively terminating the first and second sections at the first end of the cable. Hosaka et al. also does not specifically disclose the cable being greater than 100 meters in length with power wires between 10 and 16 gauge and carrying data at 100 Mbps. Hosaka et al. further does not specifically disclose the cable carrying a current up to 60 amperes.

With respect to claim 17, Leyba et al., in the field of communications, discloses a cable with separate power and data connectors located at either end of the cable **(See column 5 line 24 to column 6 line 23 of Leyba et al. for reference to a cord 10 including an electrical power connector 28 and a data connector 32 at the other end respectively terminating power conductors 12 and data transmission conductors 14 of the cord 10)**. Using a cable including separate power and data

connectors located at either end of the cable has the advantage of allow both data and power to be flexible coupled from the cable to different connectors of devices on either end of the cable.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Leyba et al., to combine using a cable with separate power and data connectors, as suggested by Leyba et al., with the system and method of Hosaka et al., with the motivation being to allow both data and power to be flexible coupled from the cable to different connectors of devices on either end of the cable.

With respect to claim 17, Iseli et al., in the field of communications, discloses a cable being greater than 100 meters in length **(See page 3 paragraph 37 and Figure 3 of Iseli et al. for reference to an Ethernet cable, which inherently carries both power and data, having a length of over 400 meters, which is greater than 100 meters)**. Iseli et al. also discloses the cable carrying data at 100 Mbps **(See page 3 paragraph 37 and Figure 3 of Iseli et al. for reference to the cable replacing a standard 100 Mbit Ethernet cable to support 100 Mbit Ethernet of a greater distance)**. Using a cable having such characteristics has the advantage of extending the range of power and data distribution when compared to conventional Ethernet cables **(See page 3 paragraph 37 and Figure 3 of Iseli et al. for reference to this advantage)**.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Iseli et al., to combine using a cable as

disclosed by Iseli et al. with the system and method of Hosaka et al. and Leyba et al., with the motivation being to extend the range of power and data distribution.

With respect to claims 17 and 47, the combination of Hosaka et al., Leyba et al., and Iseli et al. does not specifically disclose carrying a current up to 60 amperes using a cable with a gauge between 10 and 16. The exact ampere rating and gauge of a cable used to supply power is an obvious design choice must be made when implementing a wired network. Knapp, in the field of communications, discloses the use a coaxial cable of sufficient gauge, i.e. to support currents up to 60 amperes **(See column 2 lines 40-44, column 4 line 61 to column 5 line 6 and column 5 lines 51-65 of Knapp for reference to a coaxial cable with a diameter of 14 or 16 gauge that allows current through a central conductor up to 60 amperes before generating an open circuit)**. Thus, it would have been an obvious design choice for one of ordinary skill in the art at the time of the invention to combine using a cable that is a coaxial cable of sufficient gauge to support currents up to 60 amperes, such as the cable disclosed by Knapp, with the system and method of Hosaka et al., Leyba et al., and Iseli et al., with the motivation being to connect devices that require power to be delivered up to a maximum of 60 amperes.

With respect to claim 50, Hosaka et al. discloses a cable comprising a first section including at unshielded twisted-wire pairs configured to carry data between first and second network devices coupleable to opposing first and second ends of the cable **(See column 1 lines 6-10, column 1 lines 31-48, and Figure 4 of Hosaka et al. for reference to a cable having six pairs of balanced unshielded twisted pair wires 41**

for signal transmission between electronic equipment coupled to ether end of the cable). Hosaka et al. also discloses a second section including at least a pair of insulated wires configured to carry power from the first network device to the second network device **(See column 1 lines 31-48 and Figure 4 of Hosaka et al. for reference to a pair of power supply wires 32 surrounded by an insulating external coating 34 to carry power between the electronic equipment)**. Hosaka et al. discloses an outer sheath surrounding at least the first and second section **(See column 1 lines 31-48 and Figure 4 of Hosaka et al. for reference to an insulating external coating 34 surrounding the balanced unshielded twisted pair wires 31 and the power supply pair wires 32)**. Hosaka et al. does not specifically disclose first and second connectors respectively terminating the first and second sections at the first end of the cable. Hosaka et al. also does not specifically disclose the cable being greater than 100 meters in length with power wires between 10 and 16 gauge and carrying data at 100 Mbps.

With respect to claim 50, Leyba et al., in the field of communications, discloses a cable with separate power and data connectors located at either end of the cable **(See column 5 line 24 to column 6 line 23 of Leyba et al. for reference to a cord 10 including an electrical power connector 28 and a data connector 32 at the other end respectively terminating power conductors 12 and data transmission conductors 14 of the cord 10)**. Using a cable including separate power and data connectors located at either end of the cable has the advantage of allow both data and

power to be flexible coupled from the cable to different connectors of devices on either end of the cable.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Leyba et al., to combine using a cable with separate power and data connectors, as suggested by Leyba et al., with the system and method of Hosaka et al., with the motivation being to allow both data and power to be flexible coupled from the cable to different connectors of devices on either end of the cable.

With respect to claim 54, Hosaka et al. does not disclose the cable being greater than 300 meters in length.

With respect to claims 50 and 54, Iseli et al., in the field of communications, discloses a cable being greater than 300 meters in length **(See page 3 paragraph 37 and Figure 3 of Iseli et al. for reference to an Ethernet cable, which inherently carries both power and data, having a length of over 400 meters, which is greater than 100 meters)**. Iseli et al. also discloses the cable carrying data at 100 Mbps **(See page 3 paragraph 37 and Figure 3 of Iseli et al. for reference to the cable replacing a standard 100 Mbit Ethernet cable to support 100 Mbit Ethernet of a greater distance)**. Using a cable having such characteristics has the advantage of extending the range of power and data distribution when compared to conventional Ethernet cables **(See page 3 paragraph 37 and Figure 3 of Iseli et al. for reference to this advantage)**.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Iseli et al., to combine using a cable as disclosed by Iseli et al. with the system and method of Hosaka et al. and Leyba et al., with the motivation being to extend the range of power and data distribution.

With respect to claims 50 and 54, the combination of Hosaka et al., Leyba et al., and Iseli et al. does not specifically disclose carrying a current using a cable with a gauge between 10 and 16. The exact ampere rating and gauge of a cable used to supply power is an obvious design choice must be made when implementing a wired network. Knapp, in the field of communications, discloses the use a coaxial cable of sufficient gauge, i.e. to support currents up to 60 amperes **(See column 2 lines 40-44, column 4 line 61 to column 5 line 6 and column 5 lines 51-65 of Knapp for reference to a coaxial cable with a diameter of 14 or 16 gauge that allows current through a central conductor up to 60 amperes before generating an open circuit)**. Thus, it would have been an obvious design choice for one of ordinary skill in the art at the time of the invention to combine using a cable that is a coaxial cable of sufficient gauge to support currents up to 60 amperes, such as the cable disclosed by Knapp, with the system and method of Hosaka et al., Leyba et al., and Iseli et al., with the motivation being to connect devices that require power to be delivered up to a maximum of 60 amperes.

With respect to claim 52, Hosaka et al. discloses a power and data distribution cable comprising a first section including at unshielded twisted-wire pairs configured to carry data between first and second network devices coupleable to opposing first and

second ends of the cable **(See column 1 lines 6-10, column 1 lines 31-48, and Figure 4 of Hosaka et al. for reference to a power and data distribution cable having six pairs of balanced unshielded twisted pair wires 41 for signal transmission between electronic equipment coupled to ether end of the cable)**. Hosaka et al. also discloses a second section to carry power from the first network device to the second network device **(See column 1 lines 31-48 and Figure 4 of Hosaka et al. for reference to a pair of power supply wires 32 surrounded by an insulating external coating 34 to carry power between the electronic equipment)**. Hosaka et al. discloses an outer sheath surrounding at least the first and second section **(See column 1 lines 31-48 and Figure 4 of Hosaka et al. for reference to an insulating external coating 34 surrounding the balanced unshielded twisted pair wires 31 and the power supply pair wires 32)**. Hosaka et al. does not specifically disclose first and second connectors respectively terminating the first and second sections at the first end of the cable. Hosaka et al. also does not specifically disclose the cable being greater than 100 meters in length and carrying data at 100 Mbps. Hosaka et al. further does not specifically the second section including a coaxial cable of sufficient gauge to support current up to 60 amperes.

With respect to claim 52, Leyba et al., in the field of communications, discloses a cable with separate power and data connectors located at either end of the cable **(See column 5 line 24 to column 6 line 23 of Leyba et al. for reference to a cord 10 including an electrical power connector 28 and a data connector 32 at the other end respectively terminating power conductors 12 and data transmission**

conductors 14 of the cord 10). Using a cable including separate power and data connectors located at either end of the cable has the advantage of allow both data and power to be flexible coupled from the cable to different connectors of devices on either end of the cable.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Leyba et al., to combine using a cable with separate power and data connectors, as suggested by Leyba et al., with the system and method of Hosaka et al., with the motivation being to allow both data and power to be flexible coupled from the cable to different connectors of devices on either end of the cable.

With respect to claims 52 and 55, Hosaka et al. does not disclose the cable being greater than 300 meters in length.

With respect to claims 52 and 55, Iseli et al., in the field of communications, discloses a cable being greater than 300 meters in length **(See page 3 paragraph 37 and Figure 3 of Iseli et al. for reference to an Ethernet cable, which inherently carries both power and data, having a length of over 400 meters, which is greater than 100 meters)**. Iseli et al. also discloses the cable carrying data at 100 Mbps **(See page 3 paragraph 37 and Figure 3 of Iseli et al. for reference to the cable replacing a standard 100 Mbit Ethernet cable to support 100 Mbit Ethernet of a greater distance)**. Using a cable having such characteristics has the advantage of extending the range of power and data distribution when compared to conventional Ethernet

cables **(See page 3 paragraph 37 and Figure 3 of Iseli et al. for reference to this advantage)**.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Iseli et al., to combine using a cable as disclosed by Iseli et al. with the system and method of Hosaka et al. and Leyba et al., with the motivation being to extend the range of power and data distribution.

With respect to claims 52 and 55, the combination of Hosaka et al., Leyba et al., and Iseli et al. does not specifically disclose carrying a current of 60 amperes using a cable with a gauge between 10 and 16. The exact ampere rating and gauge of a cable used to supply power is an obvious design choice must be made when implementing a wired network. Knapp, in the field of communications, discloses the use a coaxial cable of sufficient gauge, i.e. to support currents up to 60 amperes **(See column 2 lines 40-44, column 4 line 61 to column 5 line 6 and column 5 lines 51-65 of Knapp for reference to a coaxial cable with a diameter of 14 or 16 gauge that allows current through a central conductor up to 60 amperes before generating an open circuit)**. Thus, it would have been an obvious design choice for one of ordinary skill in the art at the time of the invention to combine using a cable that is a coaxial cable of sufficient gauge to support currents up to 60 amperes, such as the cable disclosed by Knapp, with the system and method of Hosaka et al., Leyba et al., and Iseli et al., with the motivation being to connect devices that require power to be delivered up to a maximum of 60 amperes.

4. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosaka et al. in view of Leyba et al., Iseli et al., and Knapp and in further view of Elms et al. (U.S. Patent 5,677,974).

With respect to claims 18 and 19, the combination of Hosaka et al., Leyba et al., Iseli et al., and Knapp does not disclose a hollow conduit for optical fiber installation having a sheath enclosing the cable and a messenger wire to support installation of the optical fiber.

With respect to claims 18 and 19, Elms et al., in the field of communications, discloses a cable with a hollow conduit for optical fiber installation having a sheath enclosing the cable and a messenger wire to support installation of the optical fiber **(See the abstract and column 3 lines 53-58 of Elms et al. for reference to a hybrid cable having a hollow conduit for optical fiber installation that is enclosed by a sheath and for reference to a pulling ribbon, which is a messenger wire to support installation of the optical fiber)**. Using a cable with a hollow conduit for optical fiber installation having a sheath enclosing the cable and a messenger wire to support installation of the optical fiber has the advantage of allowing optical fiber to be installed in the same cable as electrical wiring.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Elms et al., to combine using a cable with a hollow conduit for optical fiber installation having a sheath enclosing the cable and a messenger wire to support installation of the optical fiber, as suggested by Elms et al., with the system and method of Hosaka et al., Leyba et al., Iseli et al., and Knapp, with

the motivation being to allow optical fiber to be installed in the same cable as electrical wiring.

5. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hosaka et al. in view of Leyba et al., Iseli et al., and Knapp and in further view of Aslami et al. (U.S. Patent 5,369,518).

With respect to claim 20, the combination of Hosaka et al., Leyba et al., Iseli et al., and Knapp does not specifically disclose the power section including a ground return line.

With respect to claim 20, Aslami et al., in the field of communications, discloses using a ground return line **(See column 4 lines 19-35 for reference to a cable using an earth ground return path, which is a ground return line)**. Using a ground return line has the advantage of protecting against short circuits.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Aslami et al., to combine using a ground return line, as suggested by Aslami et al., with the system and method of Hosaka et al., Leyba et al., Iseli et al., and Knapp, with the motivation being to protect against short circuits.

6. Claim 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Hosaka et al. in view of Leyba et al., Iseli et al., and Knapp, and in further view of Lemke (U.S. Patent 4,800,236).

With respect to claim 21, the combination of Hosaka et al., Leyba et al., Iseli et al., and Knapp does not disclose foil sheathing and a drain wire.

With respect to claim 21, Lemke, in the field of communications, discloses a cable with foil sheathing and a drain wire **(See column 7 lines 25-44 of Lemke for reference to a cable with foil sheathing and a drain wire)**. Using foil sheathing and a drain wire has the advantage of protecting a cable against outside interference.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Lemke, to combine using foil sheathing and a drain wire, as suggested by Lemke, with the system and method of Hosaka et al., Leyba et al., Iseli et al., and Knapp, with the motivation being to protect a cable against outside interference.

7. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hosaka et al. in view of Leyba et al., Iseli et al., and Knapp and in further view of Belling (U.S. Patent 3,750,281).

With respect to claim 22, the combination of Hosaka et al., Leyba et al., Iseli et al., and Knapp does not disclose including a suspension line bound to the cable.

With respect to claim 22, Belling, in the field of communications, discloses a cable including a removable suspension line **(See the abstract, column 3 lines 57-59, and Figure 4 of Belling for reference to using a removable suspension wire attached to a cable)**. Using a removable suspension line has the advantage of giving a cable extra support.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Belling, to combine using a removable suspension line, as suggested by Belling, with the system and method of Hosaka et al., Leyba et al., Iseli et al., and Knapp, with the motivation being to give a cable extra support.

8. Claims 23, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Binder (U.S. Patent US 7,200,152 B2) in view of Hosaka et al., Leyba et al. and Iseli et al.

With respect to claim 23, Binder discloses a network comprising a first node including a data connector and a power connector **(See column 7 line 35 to column 8 line 6 and Figures 7-8 of Binder for reference to a network including a node 70 including both a data and power connector)**. Binder also discloses a cable including a first portion configured to carry data and a second portion configured to carry power **(See column 7 line 35 to column 8 line 6 and Figures 7-8 of Binder for reference to a wire transmitting both data and power in parallel)**. Binder discloses a connector that terminates the first portion and the second portion at one end of the cable with the connector being coupled to data and power connectors **(See column 7 lines 20-47, claim 13, and Figure 7 of Binder for reference to connections from both the data and power parts of the wire line to the network node with the connectors terminating both the power and data signals at the connectors of the network node)**. Binder does not specifically disclose the first portion including at least four

unshielded twisted pairs of wires and the second portion including at least two insulated wires with a weather resistant outer sheath surrounding the first and second portions. Binder also does not specifically disclose separate power and data connectors located at either end of the cable. Binder further does not specifically the cable being greater than 100 meters in length and carrying data at 100 Mbps.

With respect to claim 23, Hosaka et al., in the field of communications, discloses a cable having a weather resistant outer sheath and including at least four unshielded twisted-wire pairs to carry data and two insulated wires to carry power **(See column 1 lines 32-48 and Figure 4 of Hosaka et al. for reference to a cable having an insulating external coating 34, which is a weather resistant outer sheath, including six unshielded twisted pair wires 31 and two insulated power supply pair wires 32)**. Using a cable having a weather resistant outer sheath and including at least four unshielded twisted-wire pairs to carry data and two insulated wires to carry power has the advantage of allowing multiple physical data channels to be implemented using a single cable such that the bandwidth of the cable is increased.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Hosaka et al., to combine using a cable, as suggested by Hosaka et al., with the system and method of Binder, with the motivation being to allow multiple physical data channels to be implemented using a single cable such that the bandwidth capacity of the cable is increased.

With respect to claim 23, Leyba et al., in the field of communications, discloses a cable including first and second sets of wires with separate power and data

connectors located at either end of the cable **(See column 5 line 24 to column 6 line 23 of Leyba et al. for reference to a cord 10 including a plurality of power conductors 12 and a plurality of data transmission conductors 14 within a shielding, which is an outer sheath, and for reference to the cord 10 including an electrical power connector 24 and a data connector 26 at one end and an electrical power connector 28 and a data connector 32 at the other end)**. Using a cable including first and second sets of wires with separate power and data connectors located at either end of the cable has the advantage of allow both data and power to be flexible coupled from the cable to different connectors of devices on either end of the cable.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Leyba et al., to combine using a cable with separate power and data connectors, as suggested by Leyba et al., with the system and method of Binder and Hosaka et al., with the motivation being to allow both data and power to be flexible coupled from the cable to different connectors of devices on either end of the cable.

With respect to claim 23, Iseli et al., in the field of communications, discloses a cable being greater than 100 meters in length **(See page 3 paragraph 37 and Figure 3 of Iseli et al. for reference to an Ethernet cable, which inherently carries both power and data, having a length of over 400 meters, which is greater than 100 meters)**. Iseli et al. also discloses the cable carrying data at 100 Mbps **(See page 3 paragraph 37 and Figure 3 of Iseli et al. for reference to the cable replacing a**

standard 100 Mbit Ethernet cable to support 100 Mbit Ethernet of a greater distance). Using a cable having such characteristics has the advantage of extending the range of power and data distribution when compared to conventional Ethernet cables **(See page 3 paragraph 37 and Figure 3 of Iseli et al. for reference to this advantage)**.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Iseli et al., to combine using a cable as disclosed by Iseli et al. with the system and method of Binder, Hosaka et al., and Leyba et al., with the motivation being to extend the range of power and data distribution.

With respect to claim 26, Binder discloses that the first node includes a router **(See the abstract of Binder for reference to the node being a router)**.

With respect to claim 27, Binder discloses the first node including a power supply configured to provide power for the second portion of the cable **(See column 7 line 35 to column 8 line 6 and Figures 7-8 of Binder for reference to node 70 including power supply 41 to provide power to the second portion of the wire)**.

9. Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Hosaka et al., Leyba et al., and Iseli et al., and in further view of Heavey et al. (U.S. Patent 4,468,571).

With respect to claims 28 and 29, the combination of Binder, Hosaka et al., Leyba et al., and Iseli et al. does not specifically disclose using a power control switch to

control power on a bus based on commands as well as provide transient voltage protection.

With respect to claims 28 and 29, Heavey et al., in the field of communications, discloses using a power control switch to control power on a bus based on commands as well as providing transient voltage protection **(See the abstract and column 5 lines 25-36 of Heavey et al. for reference to using a switch to control voltage of a power line based on control signals and for reference to providing transient voltage protection)**. Using a power control switch to control power on a bus based on commands as well as providing transient voltage protection has the advantage of allowing power provided by a power line to be more tightly controlled and protected.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Heavey et al., to combine using a power control switch to control power on a bus based on commands as well as provide transient voltage protection, as suggested by Heavey et al., with the system and method of Binder, Hosaka et al., Leyba et al., and Iseli et al., with the motivation being to allow power provided by a power line to be more tightly controlled and protected.

10. Claims 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Hosaka et al., Leyba et al., and Iseli et al., and in further view of Kuo (U.S. Patent 6,174,182 B1).

With respect to claims 30 and 31, the combination of Binder, Hosaka et al., Leyba et al., and Iseli et al. does not specifically disclose data connectors having plugs

and receptacles that interlock with a secure mechanical clasping mechanism to shield contact surfaces.

With respect to claims 30 and 31, Kuo, in the field of communications, discloses data connectors having plugs and receptacles that interlock with a secure mechanical clasping mechanism to shield contact surfaces **(See column 2 line 48 to column 3 line 34 and Figures 3 and 4 of Kuo for reference to a cable connector having receptacles that interlock using a clasp 29 to shield contact surfaces of the connector)**. Using connectors having plugs and receptacles that interlock with a secure mechanical clasping mechanism to shield contact surfaces has the advantage of allowing contact surfaces to be protected in harsh settings.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Kuo, to combine using a connector, as suggested by Kuo, with the system and method of Binder, Hosaka et al., Leyba et al., and Iseli et al., with the motivation being to allow contact surfaces to be protected in harsh settings.

11. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hosaka et al. in view of Iseli et al.

With respect to claim 32, Hosaka et al. discloses a cable comprising an outer sheath **(See column 1 lines 31-48 and Figure 4 of Hosaka et al. for reference to a cable comprising an insulating external coating 34, which is an outer sheath)**. Hosaka et al. also discloses a first means for carrying data from a first end to a second

end of the cable **(See column 1 lines 31-48 and Figure 4 of Hosaka et al. for reference to balanced unshielded twisted pair wires 31, which comprise a first means, for signal transmission between ends of the cable)**. Hosaka et al. further discloses a second means for carrying power from the first end to the second end of the cable **(See column 1 lines 31-48 and Figure 4 of Hosaka et al. for reference to power supply pair wires 32, which comprise a second means, for transmitting power between ends of the cable)**. Hosaka et al. does not specifically disclose the cable being 100 meters in length and carrying data at 100 Mbps.

With respect to claim 32, Iseli et al., in the field of communications, discloses a cable being greater than 100 meters in length **(See page 3 paragraph 37 and Figure 3 of Iseli et al. for reference to an Ethernet cable, which inherently carries both power and data, having a length of over 400 meters, which is greater than 100 meters)**. Iseli et al. also discloses the cable carrying data at 100 Mbps **(See page 3 paragraph 37 and Figure 3 of Iseli et al. for reference to the cable replacing a standard 100 Mbit Ethernet cable to support 100 Mbit Ethernet of a greater distance)**. Using a cable having such characteristics has the advantage of extending the range of power and data distribution when compared to conventional Ethernet cables **(See page 3 paragraph 37 and Figure 3 of Iseli et al. for reference to this advantage)**.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Iseli et al., to combine using a cable as

disclosed by Iseli et al. with the system and method of Hosaka et al., with the motivation being to extend the range of power and data distribution.

12. Claims 48 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Binder (U.S. Patent US 7,200,152 B2) in view of Hosaka et al., Leyba et al. and Iseli et al., and in further view of Knapp.

With respect to claim 48, the combination of Binder, Hosaka et al., Leyba et al. and Iseli et al. does not specifically disclose providing power using a coaxial cable.

With respect to claim 49, the combination of Binder, Hosaka et al., Leyba et al. and Iseli et al. does not specifically disclose using power wires of 10 to 16 gauge.

With respect to claims 48 and 49, Knapp, in the field of communications, discloses the use a coaxial cable of sufficient gauge, i.e. to support currents up to 60 amperes **(See column 2 lines 40-44, column 4 line 61 to column 5 line 6 and column 5 lines 51-65 of Knapp for reference to a coaxial cable with a diameter of 14 or 16 gauge that allows current through a central conductor up to 60 amperes before generating an open circuit)**. Thus, it would have been an obvious design choice for one of ordinary skill in the art at the time of the invention to combine using a cable that is a coaxial cable of sufficient gauge to support currents up to 60 amperes, such as the cable disclosed by Knapp, with the system and method of Binder, Hosaka et al., Leyba et al., and Iseli et al., with the motivation being to connect devices that require power to be delivered up to a maximum of 60 amperes.

Allowable Subject Matter

13. Claims 1-8, 10, 12, 14, and 40-44 are allowed.

14. Claims 24 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

15. Applicant's arguments filed 7/2/10 with respect to the rejection(s) under 35 U.S.C. 103(a) in view of Schurig regarding Schurig being ineligible as prior art under 35 U.S.C. 103(c) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Iseli et al. (U.S. Publication US 2005/0083784 A1).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON E. MATTIS whose telephone number is (571)272-3154. The examiner can normally be reached on M-F 8AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Jason E Mattis
Primary Examiner
Art Unit 2461

JEM

/Jason E Mattis/
Primary Examiner, Art Unit 2461